

# ABSTRACT

This invention provides a PCB decomposition reactor which can decompose PCB efficiently. In this PCB decomposition reactor, an injector for injecting a mixture of water and sodium hydroxide into a reaction vessel is connected to the lower part of the reaction vessel. An outlet pipe for withdrawing the fluid treated within the reaction vessel is connected to the sidewall of the reaction vessel. The other end of the outlet pipe is connected to a cyclone for separating sodium carbonate from the treated fluid. A discharge pipe is connected to the top of the cyclone, so that the treated fluid from which the precipitated sodium carbonate has been removed is discharged therethrough. A downcomer for the separated fluid is connected to the bottom of the cyclone, so that the precipitated sodium carbonate and some fluid containing it are discharged therethrough. The lower end of the downcomer is connected to an injector, which has connected thereto a feed pipe for feeding a mixture of PCB and mineral oil. A gas supply nozzle for injecting a gas into the reaction vessel is installed at the bottom of the reaction vessel.